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A NEW THEORY

OF

GRAVITATION,

AND

OTHER SUBJECTS.

By Edward L. Young, Norfolk, Va.

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CHAPTER I.

GRAVITATION.—ATMOSPHERES.—ROTARY MOTION, &c.

THE views set forth in the following pages have occurred to me in my state of total blindness, when in my hours of enforced idleness, I have reflected on many subjects with which my mind is somewhat familiar.

It may seem egotistical in me to differ from the great scientific minds of the age, but I have long thought that the subject of Gravitation, as it is generally received, is inaccurate, and that the tending of bodies to the centre is due to a different cause than the one usually assigned.

I have been unable to conceive why *matter* should attract *other matter*, or what inherent power it has to draw or *suck in*, as it were, other matter. I have reflected deeply on the subject, and my impression is that the Earth and all other spheres are compressed to their centres by external pressure alone, and not by any inherent attractive quality, or *suction*, as I might term it —that is to say—what is termed *Gravitation* is due to an immense external pressure of some subtile invisible fluid, and that no Attraction proceeds from the Centre to the Surface, but on the contrary, is forced by external pressure from the Surface to the Centre. And what is termed Atmospheric Pressure, is not the pressure of the Air, but of some powerful invisible Fluid, which I shall term the *Atmosphere*, as distinguished from the *Air*.

For the Air is constantly in motion, blowing about in currents which vary from a gentle breeze to a tornado; how then can it exert that steady, undeviating pressure of fifteen pounds to the square inch? That seems incredible; the pressure must be due to some other cause, viz: an Atmospheric pressure distinct from and irrespective of Air.

On a calm, serene evening, when we behold the Celestial regions above and around us, they impress on the mind a disposition to reflect on the immeasurable spaces between the Celestial objects.

Now, as Nature abhors a vacuum, these spaces must be filled with an element which I term a Fluid. This highly transparent pellucid fluid has the power of an intense pressure or force against the surface of all matter contained within it. This fluid, which prevades all space, presses steadily and without change on the surface, and towards the centre, of every sphere.

This Atmospheric pressure is in a precise perpendicular direction to the surface of each sphere, for, mathematically considered, the prolonged diameter of every circle and sphere is perpendicular to its circumference and surface. Now the Pendulum and Plumb Line, when at rest, must be in the so-stated perpendicular direction, and its centripetal tendency has been coerced towards the centre by the external pressure of the Atmosphere downwards on that perpendicular. All falling bodies are pressed downwards towards the Earth's surface by this Atmospheric pressure above and upon them, and are not attracted or drawn to it by any influence arising from the centre, consequently no central attraction of Gravitation exists, and all bodies are *pressed* down, not *drawn* down.

In an artificial vacuum, any object unsupported, falls towards the Earth. To account for this, I state my belief that this subtile Fluid is capable of passing through substances that Air and even Electricity cannot enter, and so passes through the cover of glass, or other material, and so exerts its influence on the object in the vacuum, pressing it towards the Earth.

You may ask, how can this subtile Fluid exert its influence in a vacuum? I ask in return, how can the influence of Gravitation exert itself in a vacuum? The same reasoning that can account for the one, can account for the other. Let those who have considered the subject more than I have done, answer the question. I have satisfactorily convinced myself by experiment, that Magnetism can exert its influence through glass, which it is well known that Electricity cannot do.

The particles of the aforesaid subtile Fluid contiguous to and pressing on the surface of a sphere are condensed to a considerable height above that surface in proportion to the bulk of matter within.

This condensation of the surrounding Fluid, I term the Atmosphere (as distinguished from *Air*, as before stated). And the greater its condensation, the greater will be its reactive force or pressure on the surface of the within matter. This constant and permanent pressure on the surface of matter, while in a yielding state, will compress it in a spherical form. And is also a preserver of that spherical form.

And by its irresistible pressure, matter when thus formed into spheres is restrained from approaching to or receding from other spheres. Thus preventing all Celestial bodies, while performing their various motions, from coming into collision with each other, and coercing each Planet to preserve a uniform distance from each other and from their centre, the Sun.

Thus, as all matter in the Solar system is enveloped in, and bounded by this compressive Fluid, which I term Atmospheric, therefore as there is no vacuum in Nature, every Celestial body must have an Atmosphere, being compressed within the surrounding Fluid which bears upon its surface. Now the greater the bulk of the Celestial body, the greater will be its resistance against this Fluid, which resistance creates condensation, and this condensation forms the Atmosphere of such body, which varies in density according to the bulk of matter which it envelops.

In order to form a correct estimate of this Atmospheric pressure, (according to my views) I state the following, viz: That as the diameter of one sphere is to the estimated height of its Atmosphere, so is the diameter of every other sphere to the height of its Atmosphere.

Now, it is estimated that the Atmospheric pressure on every square inch of the Earth's surface is fifteen pounds; and its estimated Atmospheric height is forty-six miles. Therefore it is reasonable to suppose that every sphere will have a corresponding Atmospheric altitude, according to its bulk. We may therefore form an approximate estimate of the height of the Sun's atmosphere and its proportionate pressure.

The Sun's estimated diameter is 886,952 miles; the Earth's estimated diameter is 7,912 miles. Therefore as the Earth's diameter (7,912 miles) is to the estimated height of its atmosphere, (46 miles) so is the estimated diameter of the Sun (886,952 miles) to the height of its atmosphere; which by this calculation is 10,970+ miles. And as the estimated height of the Earth's atmosphere (46 miles) is to its pressure on the Earth's surface (15 lbs. to the square inch) so is the height of the Sun's atmosphere (10,970+ miles) to it pressure on each square inch of the Sun's surface; which by this calculation is 3,577+ pounds to the square inch.

At first view, this enormous pressure may seem unreasonable, but it will appear no more than requisite when it is considered that so great a pressure is necessary to counteract any ejectment of matter from the Sun's surface by its centrifugal tendency, which must necessarily take place from the great velocity, 4,568+ miles per hour of such an immense body of matter while performing its rotary motion on its axis.

It is a well-known fact, that all rotating bodies create a centrifugal momentum, or hurling off its matter from its central axis, and which increases with its rotary velocity; so much so as to throw off and hurl away its exterior particles with great force and rapidity until the rotating body must, in the process of time, be reduced to nothing.

Thus, the planet Jupiter revolving with the rapidity of about 25,000 miles an hour at its equatorial regions, would be constantly subjected to a loss of its particles, resulting from their tendency to fly from their central axis. Now this centrifugal tendency must be counteracted by some powerful exterior force pressing towards the centre, which is effectually accomplished by the aforesaid Fluid or Atmosphere, which presses equally and irresistibly on all parts of its exterior surface towards the centre.

This exterior pressure, I term Atmospheric pressure; and which, when continued from the Surface to the Centre, is usually termed Gravitation or Attraction; which term I consider erroneous, as the tendency to the centre is due solely to the external pressure, and not to any *attractive* force drawing *to* the centre. And what is termed Gravitation is due solely to that immense external pressure of this subtile, invisible Fluid; and as I before observed, no Attraction proceeds from the Centre to the Surface, but is forced by external pressure from the Surface to the Centre; therefore, I deny the existence of so-call Gravitation or Central attraction.

This external pressure is absolute necessary to prevent any ejectment from the surface of the sphere; the mass will thereby be preserved entire, and the pressure being equal on all parts towards a common centre a spherical form is thus preserved, and the Atmospherical pressure on the surface prevents the centrifugal ejectment therefrom.

These statements must conclusively show that the rotating sphere possesses no inherent quality to draw or attract any portion of its own material towards its own centre; how then can we suppose that any exterior matter can be drawn in, or attracted to its centre, when it possesses no inherent power to keep its own parts together? And how is it possible that this powerless centre can attract, or draw to itself, matter at millions of miles distant from it? From these considerations, I think I am justified in stating my total objection to the doctrine of the so-called Gravitation or Central Attraction, and again state my belief that bodies are not drawn down but pressed down.

CHAPTER II.

MAGNETISM.

I WILL now state my views of Magnetism; that Fluid which, by its wonderful and powerful influence, imparts motion to all the Heavenly bodies, and without which no motion could exist.

This Fluid surrounds and bends on the surface of the Sun, the Earth, and all the bodies of the Solar System. It is not at the centre of those bodies, but is confined to the Surface of each. If it were in the Centre, their mutual attraction would be in a direct line from centre to centre, thus, from the centre of the Sun to the centre of each Planet, and from one Planet to another, thereby causing the greater body, the Sun, with its greater Magnetic influence, to attract out of its position, and draw to a contact with itself, the nearest Planet. This would augment the Magnetic influence to such a degree as to draw it in the next in succession, and thus; in a similar manner, would all the Planets be drawn to a contact with the Sun. Thus, we see that the Magnetic influence must surround and circumscribe the *Surface* of the Sun and each body of the Solar System.

Now the close affinity and Magnetic influence existing between the Sun and each Planet, must cause a reciprocal and mutual influence from the one to the other upon those surfaces. Therefore, as the influence is mutual, it passes from the Sun to the Planet and from the Planet to the Sun, by which reciprocity of action the Magnetic influence of each is maintained. Now the rotary motion of the Sun must, by its greater magnetic influence, cause a similar rotary motion of the Planet.

The Magnetic influence may be compared to a magnetic band or belt, passing on the one side from the Sun, to and around the Planet, and on the other side from the Planet to and around the Sun, thus causing the Planet to follow the Rotary motion of the Sun, and thus to continue in perpetual Rotation. Some of the Planets of the Solar System rotate with greater velocity than others. Now the Rotating velocity of a Planet will be at the minimum when the Magnetic influence of the Sun passes around the equatorial regions of the Planet, and the maximum rotating velocity will be, when the Sun's Magnetic influence passes around the Polar regions, of that Planet.

There being so little velocity of Rotation in the Polar, compared with the Equatorial regions of the Earth, there will be consequently less disturbance of the Magnetic Fluid in the former, and it cannot be thrown off with such rapidity; consequently there must be a steady accumulation of the Magnetic fluid around the Polar regions, and its influence will be stronger. This accumulated influence is that which controls the direction of the Magnetic Needle, causing it always to point in the direction of the Polar regions.

I will now express the views I entertain of the variation of the Magnetic Needle:

When no error or variation exists in its direction, it is then that the Magnetic North is in strict coincidence with the plane of the true North. A few degrees distant from this coincidence, either to the Eastward or the Westward, it will be found that the Magnetic North has differed several degrees in its direction from the true North, and that this variation will continue to increase or diminish. In nearly every portion of the Earth's surface this variation is found to exist. Now, if to each of these variations we draw a meridian on the surface of a globe, it will be found that not more than two of these meridians will intersect each other, and that each of these intersections will be found in different localities near the Arctic Circle, consequently none of them can be considered as a Magnetic Pole.

The next consideration will be the cause of these variations of the Magnetic Needle. This I attribute to the great deposit, in those regions, of iron or magnetic stone, combined with the great amount of magnetic fluid which accumulates in that portion of the Earth. This compounded or double influence operates on the magnetic needle, and as the location of the needle is changed by those who are using it, the needle will be governed by the greatest collection of those compounded influences which are nearest to it.

CHAPTER III.

HEAT AND COLD.

AS auxiliaries to the Magnetic influence, in causing Rotary Motion, I would state that as Heat and Cold are two elements directly antagonistic; the former radiating its powerful influence from the surface of the Sun; the other, its equally powerful influence directly towards it, it is only reasonable to conclude that any spherical body, directly within their influence, must necessarily be effected by both. By receiving on its surface the strong repelling heat of the Sun on the one side, and the powerful reactive force of cold on the other, the body must necessarily yield to both forces; consequently, a revolving motion ensues for the escapement of both these antagonistic influences. These, I consider, as auxiliaries to the Magnetic influence in causing the Rotary Motion of the Planets.

A simple illustration of the effect of these forces (Heat and Cold) may be made by suspending an apple, or other spherical body, before a heated fire. The repelling heat of the fire is received on the one side, while a current of cold air strikes on the opposite side. It is then that the rotation of the apple commences and continues.

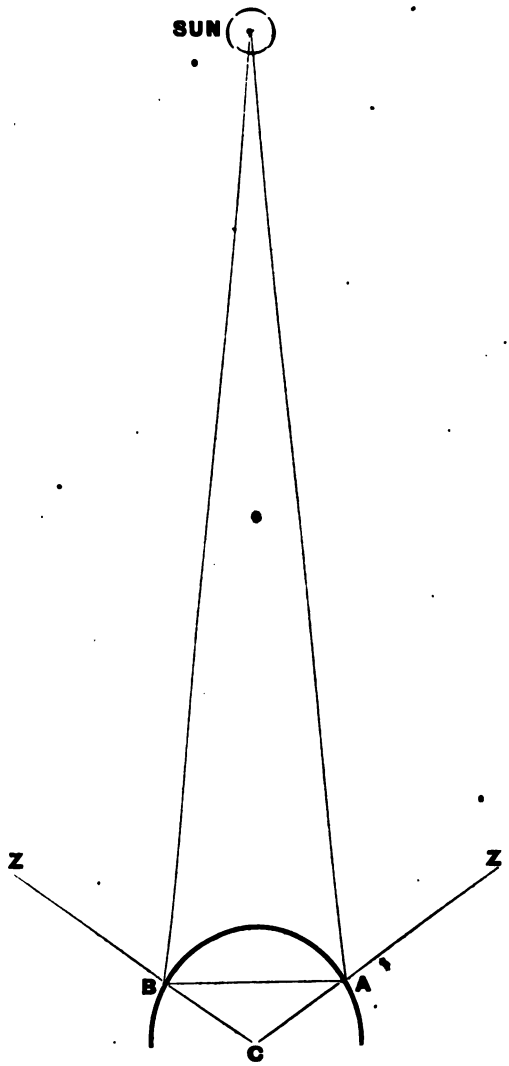
CHAPTER V.

THE SUN'S DISTANCE FROM THE EARTH.

I SHALL now make a few remarks on the estimated Distance of the Sun from our Earth: that about the year 1795 it was estimated that the distance between these two bodies was 98,000,000 of miles. About 1803, Fergerson computed it at 83,000,000 of miles. About 1816, it was supposed to be 95,000,000; since then, at 96,000,000 of miles.

These changes of opinion, first in diminishing the distance and then increasing it, with these variations of millions of miles, have induced me to believe that the methods by which these distances have been estimated are rather inaccurate; therefore, curiosity has induced me to reflect a little on this subject.

I think the following method will approximate to more correctness: Let an observer be placed in a high Northern latitude (suppose the city of Quebec); and another in a high Southern latitude under the same Meridian (suppose the island of Chiloe, off the coast of Chili), at or about the time of either of the Equinoxes. Let each observer on a specified day take the exact Meridian Altitude of the Sun, which of course must be corrected for its refraction, semi-diameter, and parallax in altitude, and let a diagram be drawn as, viz: From a centre, as C, describe a semicircle representing the Meridian of the observers, and assume points on it at A and B, to represent the position of the observers, and draw a chord line from A to B to connect these positions, which chord line can readily be solved by the principles of Trigonometry. From the centre C, which represents the centre of the Earth, draw a line to and through each station, each of which lines will represent a radius of the Earth. Let each radius be prolonged outwardly towards the


SUN
Z
Z
B
A
C

Zenith, which is represented by the letter Z. Let the observer at the Northern station (A) draw a line Southwardly so as to make an angle with its zenith equal to the Sun's meridian zenith distance at that station. Then from the Southern station (B), draw a line Northwardly so as to make an angle with its zenith, equal to the Sun's meridian zenith distance at that station. These two lines when prolonged until they intersect each other, will represent the position of the Sun's centre. The length of these two lines, A Sun and B Sun, will be the distance of the Sun from the observers, as was required, and which can readily be determined by the principles of Plane Trigonometry.

By referring to the accompanying diagram, further explanation is deemed unnecessary.

It is necessary that the latitude of each observer should be very minutely ascertained. The arch line, A to B, represents the difference of latitude between the observers; and the chord line, A to B, represents the true distance between them. This method may be also applied to ascertain the distance of the Moon when on the meridian of the observer.

I will here remark, that in my mind, a great inconsistency appears in determining, with so much precision, the distance of the Planets Uranus and Neptune from the Sun; the former 1800 millions of miles, the latter 2950 millions of miles distant. The fine astronomical instruments and calculations used in determining those distances could, I should think, with greater ease determine the distance of our Planet from the Sun. When we consider that from the beginning to the present time, science has never been able to arrive at any conclusion nearer than a variation of 15,000,000 of miles, namely, from 83,000,000 to 98,000,000 of miles; this, I acknowledge, excites my surprise, when I consider that the Sun is so much nearer to the Earth than to those and other Planets.

CHAPTER VI.

HEAT AND LIGHT OF THE SUN.

SOME remarks on the Heat and Light of the Sun. The Heat and Light of the Sun are, I think, produced by two causes: First, the great irregularities in the Sun's surface, which are sometimes visible in the spots occasionally seen on its surface, must cause great and violent contractions and expansions of the Sun's atmosphere, by which electric flashes and flames are being constantly produced, thereby causing great and perpetual heat.

Again, it is readily admitted, that friction produces heat; consequently, from the great velocity of the Sun's rotary motion, in contact with the contiguous portions of its enveloping atmosphere, great heat must be evolved, which true edge is impossible to be ascertained. For that tenuity continuing to increase until it is so expansive as to be undefinable by the scrutinizing research of teleocopic observations, consequently what is stated on the subject must be only an approximation, and probably far from a true result.

CHAPTER VII.

THE MOON

HAVING often reflected on the subject of Moon presenting always the same surface to our observation, I have arrived at a conclusion, which I think satisfactory, from the simple fact, that when the extremities of a sphere, on each side of its axis, are in equipoise the rotating motion, if it has any, will be regular and uniform. On the contrary, when not in equopoise, a regular uniform motion will not be produced. And should the preponderating portion be projected to a very considerable extent from its axis, rotary motion must cease.

To this last cause, I attribute the undeviating appearance of the Moon's disk, viz: that its axis not being in the centre, its preponderating heavy portion is that which is always visible to us, as turned towards the Earth; consequently, it has no rotary motion, and no change is apparent in its aspect.

CHAPTER VIII.

HAVING Thus far submitted my thoughts on Celestial subjects, I will now offer a few remarks on "Things Terrestial," viz:

THE PYRAMIDS OF EGYPT.

When an observer beholds those massive and stupendous stone structures, the Pyramids of Egypt, the mind is lost in astonishment, and is naturally drawn to consider—For what purpose were those Pyramids designed? Also, from whence were those immense masses of stone obtained?

In reply to the first inquiry, I will state that in the Primitive Ages, history represents mankind as impressed with the idea that their deities could be more readily approached, and their mandates received on mountain tops and *high places*, and that the oblations and sacrifices offered to them would be more acceptable on such *high places* than elsewhere. In corroboration of this statement, I refer to a few quotations from the Holy Scriptures: See 2 Kings, ch. xvii, 11.—"And there they burnt incense on all the *high places,* as did the heathen whom the Lord carried away before them." Also 1 Kings, ch. xi, 7; 2 Kings, ch. xv, 4 and 35; Deut. ch. xii, 2; 1 Kings, ch. iii, 2–3; ch. xxii, 43; also many other passages of Scripture not herewith submitted.

Now there are no mountains or high places within hundreds of miles distant from the Pyramids, and the general face of the country around them, for many miles, presents the appearance of an almost level surface. Therefore as there were no *natural* high places in that part of Egypt where the Pyramids are situated, whereon to sacrifice to their deities, it was thought necessary, in order to supply the deficiency, to erect *artificial high places* for that purpose, and so the Pyramids were erected of that great elevation that the vast multitude of votaries assembled in the plain below might behold the smoke of the sacrifice ascending, from its summit to their supposed deities.

Probably they were sometimes human victims, as was the custom among many of the heathen and idolatrous nations. For what better could be expected from nations so degraded as to worship living animals and reptiles, as well as vegetables, and other things too ridiculous to mention, and who sanctioned the passage of their children through the fire in honor of their false gods.

To substantiate the latter clause, I refer the reader to the Holy Scriptures, viz: .Lev. ch. xviii, 21; 2 Kings, ch. xvi, 3; ch. xvii, 17; ch. xx, 10; Psalms, cvi, 37–38. When such monstrous ceremonies were practiced as religious rites no doubt can be entertained of their sacrificing their slaves and their captors taken in war. This horrible custom was zealously practiced by the Druids many ages after.

Also in Central America and Mexico, the summits of the pyramids found there were evidently used as places of sacrifice for human victims, as well as animals, by the aborigines of those countries, prior to their subjugation by the Spaniards. They doubtless received their system of religion from the ancient Egyptians, and were in all probability descended from that race.

I will now state my thoughts of the manner of their construction and their approaches. The Pyramids, which were situated near each other in the same locality, were connected together by adits or subterraneous passages, made by excavations in the stone, which underlies the upper surface of that part of Egypt, and by which adits the interior of each Pyramid was rendered accessible. The stone thus excavated in making these adits may have formed a portion of the material for building the Pyramids, and was conveyed through the subterraneous portals of each Pyramid to its centre, and thence lifted by mechanical force to the height required, then placed in its proper position.

In this manner the adits were made and cleared of their excavated material; the last extremity of each adit terminating at a point connecting with the interior of the sphynx or some temple in its vicinity. Whereby a connection was made for the reception and passage of those who were permitted to enter those structures.

The sphynx was probably a female idol, the mouth of which was an entrance through which the unsuspecting victims were made to pass into the subterraneous passages which conducted them into the Pyramid, on the summit of which the sacrifices were to be offered. By this mode of hidden conveyance they passed without interruption and without the observation of the assembled multitudes that thronged the surrounding plains to witness the ascending smoke from the burning sacrifices. The sphynx, I consider, was originally a part of an elevated rock, or spur, which was chiselled down to its present form; the residue of said rock was then chiselled below the surface, by which the deception of the isolation of the sphynx was made perfect.

The truth of the existence of these adits will no doubt be discovered at some future day, and thus prove the truth of my statement. They might probably be discovered by commencing at a point somewhere between the Pyramid and the sphynx, and digging a trench below the soil to the underlying stone, thence proceeding along that stone in a direction transverse to the supposed line of adit, I have no doubt that the roofing stone or covering of the adit may be discovered. Or, by carefully examining the interior of the sphynx, probably the commencement of

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the subterraneous passage may be discovered. As there are no visible outlets or entrances to the Pyramids, the presumption is that they must have been accessible by subterraneous passages having an outlet as before stated.

The excavation of these adits, though a herculean task, should not be considered improbable as a work of labor, when we consider the still more wonderful and astounding works in that country.

For instance, we find in Rollins' celebrated Ancient History (edition of 1832), in his History of Egypt, vol. 1, ch. 2, his description of Joseph's Well, in the Castle of Cairo, viz: "This well has, as it were, two stories cut out of the solid rock to a prodigious depth. The descent to the reservoir of water between the two wells is by a stair case seven or eight feet broad, consisting of two hundred and twenty steps, and so contrived that the oxen employed to throw up the water go down with all imaginable ease, the descent being scarcely preceptible. The well is supplied from a spring which is almost the only one in the whole country. The oxen are continually turning a wheel, with a rope to which a number of buckets are fastened. The water thus drawn from the first and lowermost well is conveyed, by a little canal, into a reservoir which forms the second well, from whence it is drawn to the top, in the same manner, and then conveyed by pipes to all parts of the castle."

Also his description of the subterraneous excavations below the Labyrinth, ch. 2, sec. 3. This Labyrinth "was built at the southern extremity of lake Mœris, near the town of Crocodiles, the same with Arsinæ. It was not so much one single palace as a magnificent pile composed of twelve palaces, regularly disposed, which had a communication with each other. Fifteen hundred rooms, interspersed with terraces, were ranged around twelve halls, and discovered no outlet to such as went to see them. There were the like number of buildings *under ground.* These subterraneous structures were designed for the burial place of the kings, and also for keeping the sacred crocodile, which a nation, so wise in other respects, worshipped as gods."

And, in section 4, the wonderful work of the excavation of lake Mœris, which was in circumference about three thousand six hundred stadia, that is, about one hundred and eighty French leagues, and three hundred feet deep. This artificial lake was excavated king by Mœris to correct the irregularities in the overflowings of the Nile, and had a communication with that river by a great canal more than four leagues long and fifty feet broad.

When these wonderful and stupendous works are carefully considered, the reader must yield assent to the comparative insignificance of the excavations necessary to accomplish those adits or subterraneous passages which I suppose to exist.

I will here remark that the historian, Rollen, supposes the Pyramids to have been built for tombs, from the circumstance of a saccophagus being found in one of them. But this no more proves that such was the sole purpose of their construction than the tombs in many churches prove that those structures were built for mousoleums.

When in Egypt, in the years 1803 and 4, some interesting subterraneous excavations came under my observation. Two of these I will here relate, though they are by no means to be compared to those stupendous works of art before mentioned:

One beautiful excavation, cut in solid rock, was about two miles on the western side of the city of Alexandria, near the margin of the seashore, which for its smooth finish, the beauty of its formation and arrangement, excited my highest admiration. It was, no doubt, intended for a bathing place. It was accessible by two flights of steps, each three or four in number; the first leading down to a large platform; the second leading from this platform through a doorway to a superb excavated chamber, about forty feet in length by about twenty-five feet in breadth and about twelve feet high, which was submerged to the depth of about four feet. On each side was a small projection, or bench, just below the water, and on the side next the sea were several apertures, or loop holes, about four inches in width and five feet high, through which the sea water had constant ingress and egress, thus keeping the chamber constantly supplied with pure sea water. This beautiful bathing place, from its beauty and privacy might have been intended for the use of royalty.

Some months afterwards, on an excursion in a north-easterly direction, in company with a young officer of the British Navy, after riding about two hours, some peculiar irregularity in the surface of the sand attracted our attention. Curiosity inducing us examine it, we dismounted from our mules and scraping away the sand, at a few inches in depth we discovered a smooth, flat stone about three feet square. On removing the stone we found that it covered an aperture, and on looking narrowly we discovered below it, a flight of steps hewn in the side of the rock, which my companion and myself descended, after securing our donkies to the stone.

We descended to a depth of fifty or sixty feet and found ourselves in a dull and gloomy apartment, the only light admitted to it coming from the aperature above, our feet resting on a large hewn stone about ten feet in length and about two feet in width and depth, lying on the top of a pile of other stones of similar dimensions. The floor was covered with these large hewn stones lying in confused heaps around us. On viewing this apartment, it seemed in the dim light to be a square, the sides vertical and smoothly cut, and each side about sixty or seventy feet in length. In the centre stood an immense rock shaped like the frustrum of a cone, apparently about nine feet in height and about six feet in diameter at its upper and smaller surface, too steep and slippery to be ascended.

On the side opposite to the descending steps was a large dark opening into some gloomy recess, probably a cavern, but which we did not approach through fear of serpents or other venomous reptiles habiting there, and also from the slimy and slippery state of the large hewn stones lying in heaps around us. From the roof of this apartment were pendent innumerable stalactites, some, of great size. On throwing against them a small missile taken from the pocket of my companion, it caused a soft, musical, ringing sound, the reverberations of which were indescribably harmonious.

After closing our examination we re-ascended and placed the entrance stone in its former position. Reflecting on the subject, we came to the conclusion that the immense stones lying on the bottom had been hewn for some particular purpose and left on the floor ready for removal through the aperature above, but from some sudden and unexpected cause the work had been suspended and the stones left in the confused heaps that we found them. From the appearance and great size of some of the stalactites we concluded this work to be very ancient, as they must have been formed after the work was abandoned.

What I have heretofore said in this work respecting the Pyramids and their approaches, and the conclusions I have drawn, may approximate to correctness and be as worthy of reception and as much entitled to the consideration of the reader as the theories and statements made from time to time by the various writers on the subject.

I have now laid before the Reader the impressions made on my mind within the last two years of my sad affliction, believing that they may prove of some utility.

In thus submitting my views, independently of the opinions of any author or individual on such subjects, I am aware that some may make them a target for the shafts of criticism, while others may smile with incredulity at the statements I have so plainly and concisely set forth in the language of common parlance, strictly avoiding the high flown and technical expressions, so that the same may be rendered comprehensible by those who are not familiar with those themes; and with a earnest wish that they may merit the consideration and approbation of the Reader.

Being now in the ninety-second year of my age, I have, during that long period, passed through many strange and trying vicissitudes, which I may in all probability relate at some future day.

EDWARD L. YOUNG.

NORFOLK, VA., MARCH 19TH, 1874.

ERRATA.

Page 15, line 5 from the top, for *bends* read BINDS.
Page 16, line 2, after *draw*, omit IT.
Page 18, line 16, after *each other*, insert AT A COMMON POINT.

古[illegible]氏